

AMENDMENT AND RESPONSE
Serial No. 10/002,218
Title: MOUNTING CIRCUIT BOARDS IN HOUSINGS

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REMARKS

Claims 1-16 are pending in the application. Claims 1-3, 5, 7 and 8 have been amended and claim 4 has been cancelled.

Claim Rejections under 35 U.S.C. §112

The Examiner has rejected claims 2-3 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 3 have been amended to clarify the subject matter. No new matter has been added.

Claim Rejections under 35 U.S.C. §103

Claims 1-3 and 5 were rejected under 35 U.S.C. §103(a) as being unpatentable over Burstedt et al (US 5,801,928) in view of Varnau et al (US 4,309,856). Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Burstedt et al., as modified, as applied to claim 1 above, and further in view of Crowley (US 5,963,432). Claims 6 and 7 were rejected by the Examiner under 35 U.S.C. 103(a) as being unpatentable over Burstedt et al., as modified, as applied to claim 5 above, and further in view of Burns US 5,008,777). Claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Burstedt et al., as modified, as applied to claim 1 above, and further in view of Speraw et al. (US 5,018,982). Claim 9 was rejected under 35 U.S.C. §103(a) as being unpatentable over Burstedt et al., as modified, as applied to claim 8 above, and further in view of Clements (US 6,122,176).

Applicant respectfully traverses these rejections.

Claim 1, as amended, is directed to a mounting apparatus. The mounting apparatus includes at least one first block securable within a housing, the at least one first block having first and second grooves for respectively receiving a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are spaced apart, and at least one second block securable within the housing, the at least one second block having a groove for receiving a second edge of the first circuit board that is perpendicular to the first edge of the first circuit board, the at least one second block having a surface to which the second circuit board is attached adjacent a second edge of the second circuit board that is perpendicular to the first edge of the second circuit

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board. Wherein at least one of the first and second grooves in the at least one first block is tapered.

When applying 35 U.S.C. §103, the claimed invention must be considered as a whole; the references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention and a reasonable expectation of success is the standard with which obviousness is determined. *Hodosh v. Block Drug Co., Inc.*, 786 F.2d 1136, 1143 n.5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP 2143

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. MPEP 2143 citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

As correctly stated by the Examiner, Burstedt et al. does not disclose the retention means being able to hold two spatially separated circuit boards and having grooves to receive the edges of both of the circuit boards. The Examiner alleges that Crowley includes a standoff means (200) having a tapered groove (figure 8). Applicant asserts that Crowley does not teach or suggest at least one first block having first and second grooves for respectively receiving a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are spaced apart or wherein at least one of the first and second grooves in the at least one first block is tapered as found in claim 1. There is no discussion in Crowley of tapered grooves. In contrast, Crowley describes a snaplock standoff 200 having a plurality of prongs 251, 252, 253 and 254, each having an outward tapered portion 290 and an inward tapered portion 280. See Col. 3, line 45 – Col. 4, line 18. The references alone or in combination do not teach or suggest the mounting apparatus of claim 1. As a result claim 1 should be allowed.

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Claims 2, 3, and 5-9 depend either directly or indirectly from claim 1 and therefore include all of the limitations of patentable claim 1 and should also be allowed.

The Examiner rejected claims 10-13 under 35 U.S.C. 103(a) as well, as being unpatentable over Burstedt et al in view of Varnau et al and Crowley. Claims 14-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Burstedt et al., as modified, as applied to claim 10 above, and further in view of Speraw et al. (U.S. 5,018,982). Applicant respectfully traverses these rejections.

Claim 10 is directed to a mounting apparatus comprising a plurality of first blocks securable within a housing, each of the plurality of first blocks having first and second tapered grooves for respectively grasping a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are spaced apart and a plurality of second blocks securable within the housing, each of the plurality of second blocks having a slot for receiving a second edge of the first circuit board that is perpendicular to the first edge of the first circuit board, each of the plurality of second blocks having a surface to which the second circuit board is attached adjacent a second edge of the second circuit board that is perpendicular to the first edge of the second circuit board.

As discussed above with respect to claim 1 there is no discussion in Crowley of tapered grooves. None of the references alone or in combination teach or suggest each of the plurality of first blocks having first and second tapered grooves for respectively grasping a first edge of a first circuit board and a first edge of a second circuit board as found in claim 10. As a result claim 10 should be allowed.

Claims 11-15 depend either directly or indirectly from allowable claim 10 and should also be allowed.

The Examiner rejected claim 16 under 35 U.S.C. 103(a), as being unpatentable over Burstedt et al. in view of Varnau et al, Crowley and Burns. Applicant respectfully traverses this rejection.

Claim 16 is directed to a mounting apparatus. The mounting apparatus includes a first block securable within a housing, the first block having first and second tapered grooves for respectively grasping a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are

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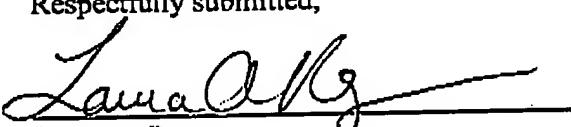
spaced apart and a second block securable within the housing, the second block having a groove for receiving a second edge of the first circuit board that is perpendicular to the first edge of the first circuit board, the second block comprising a projection having a surface and an aperture passing through the projection. The aperture in the projection of the second block aligns with an aperture in the second circuit board and a fastener passes through the aperture in the second circuit board and into the aperture in the projection of the second block to secure the second circuit board to the surface of the projection adjacent a second edge of the second circuit board that is perpendicular to the first edge of the second circuit board.

As discussed above with respect to claims 1 and 10 there is no discussion in Crowley of tapered grooves. None of the references alone or in combination teach or suggest a first block having first and second tapered grooves for respectively grasping a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are spaced apart and a second block securable within the housing as found in claim 16. As a result claim 16 should also be allowed.

With the amended claims, and in view of the above, applicants believe the claims are now in condition for allowance, and respectfully requests same.

Respectfully submitted,

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MARKED UP VERSIONS OF AMENDMENTS

IN THE CLAIMS

1. (Amended) A mounting apparatus comprising:

at least one first block securable within a housing, the at least one first block having first and second grooves for respectively receiving a first edge of a first circuit board and a first edge of a second circuit board such that the first and second circuit boards are aligned with each other and are spaced apart; and

at least one second block securable within the housing, the at least one second block having a groove for receiving a second edge of the first circuit board that is perpendicular to the first edge of the first circuit board, the at least one second block having a surface to which the second circuit board is attached adjacent a second edge of the second circuit board that is perpendicular to the first edge of the second circuit board;

wherein at least one of the first and second grooves in the at least one first block is tapered.

2. (Amended) The apparatus of claim 1, wherein the at least one first block comprises a plurality of first blocks.

3. (Amended) The apparatus of claim 1, wherein the at least one second block comprises a plurality of second blocks.

5. (Amended) The apparatus of claim 1, wherein the surface of the at least one second block comprises a surface of a projection of the at least one second block, the projection having an aperture passing therethrough.

7. (Amended) The apparatus of claim 5, wherein the aperture aligns with an aperture in the second circuit board and a fastener passes through the aperture in the second

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circuit board and into the aperture in the projection of the at least one second block to secure the second circuit board to the at least one second block.

8. (Amended) The apparatus of claim 1, wherein [at least] one or more of the at least one first and second blocks comprises a hole passing therethrough for receiving a fastener for securing at least one of the first and second blocks to the housing.

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